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A New Chimaeroid Fish from the Niobrara Cretaceous of Logan County, Kansas

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ABSTRACT: A new ?chimaeroid, *Ichthyopriapus hubbsi*, gen. et sp. nov. is described from the Niobrara Cretaceous of Kansas. The type is a complete ?cephalic holder or prehensile spine.

THERE has long been known a bilateral symmetrical element in the University of Kansas Museum of Vertebrate Paleontology collection, which was recovered by Mr. H. T. Martin while cleaning up part of a *Protosphyraena* skeleton that had been collected in the Niobrara Chalk. The specimen under discussion was not associated with the *Protosphyraena* skeleton, only inasmuch as it was in the same block of chalk. Mr. Martin carefully worked it out and placed it away in a drawer in his office labeled "unknown bone." Martin was familiar with the remains of Cretaceous vertebrates, but had never seen even a fragment that resembled this specimen. He searched for years for other specimens or for clues concerning its identity.

In the past years I have shown the specimen to many, hoping that someone had seen something like it. Many have remarked upon its resemblance to an *os priapi*. Dr. E. C. Case and Dr. Carl L. Hubbs, of the University of Michigan, after careful examination, suggest that it is probably the head clasper of a large chimaeroid fish.

During all the many years in which paleontological collections have been made in the Cretaceous of Kansas, chimaeroids have never been found, although they are known from the Cretaceous of New Jersey, Mississippi, and Wyoming. The specimen is too large to be the head clasper of any of the known Cretaceous chimaeroids.¹

1. For a review of the Cretaceous Chimaeroids of North America see Hussakof (Bull. Amer. Mus. Nat. Hist., 30, art. 19; pp. 195-227, 21 text figs., 2 pls.).

I am indebted to many who have offered helpful suggestions and especially to Dr. E. C. Case and Dr. Carl L. Hubbs for their criticism and advice and for the use of their libraries and specimens. Any error or errors in the interpretation of the specimen are entirely my own. The uniqueness of the specimen seems to warrant placing it on record. The drawings were made by Miss Frances Watson.

Ichthyriapus gen. nov.

Genotype.—*Ichthyriapus hubbsi* sp. nov.; No. 1136F, Kansas University, Museum of Vertebrate Paleontology, complete ?head clasper.

Ichthyriapus hubbsi sp. nov.

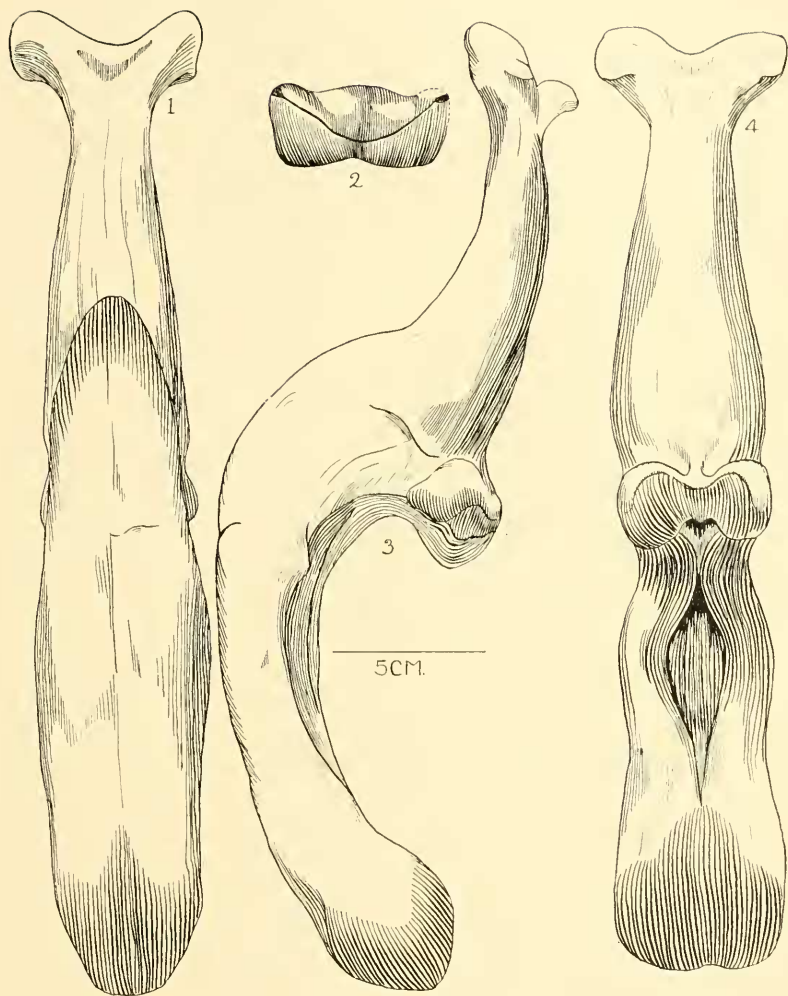
(Figs. 1-4)

Holotype.—No. 1136F, Kansas University, Museum of Vertebrate Paleontology. Complete ?head clasper. Collected by George Sternberg.

Horizon and type locality.—Niobrara, Upper Cretaceous, Logan county, Kansas.

Diagnosis.—A large ?head clasper of a chimaeroid, larger than any head clasper or frontal holder described in previous works. Base not broadened as in *Squaloraia*, but knob shaped. No evidence of denticles or spines on anterior end. Not short arched as in *Ischyodus* and *Chimaera* but more of an elongated S-shape. Approximately nine times larger than the head clasper of *Chimaera*, and possessing a distinct knoblike base.

Description of holotype. The ?head clasper has an over-all length of 150 mm. The base is pitted showing the attachment of well developed muscles. There is evidence of a groove 24 mm. from the base on the ventral side which becomes wider and deeper as it passes anteriorly, reaching a maximum width of 9.5 mm. and a depth of 12 mm.; this is in the region of strongest arch. The groove passes anteriorly in the center of the shaft becoming completely enclosed, and bifurcates near the tip of the structure to open through two small openings with a diameter of 2 mm. on the tip of the horns. (See fig. 2.) Anterior and ventral to this deep groove are two well developed processes for the attachment of muscles. Width across processes, 24 mm. Depth of structure at this point, 42.3 mm. The anterior end tapers down rather rapidly in front of these processes to a narrow transverse width of 13.7 mm. Depth at this point is 9



Explanation of figures: No. 1136F, KUMVP, *Ichthyriapus hubbsi* gen. et sp. nov., holotype, (1) dorsal view, (2) view of anterior end, (3) lateral view, (4) ventral view.

mm. At the point of narrowest transverse width the structure broadens and bifurcates into two hornlike processes, each of which possesses on its lateral surface, near the ventral side, a slight knob-like process. These small processes show no indication of the attachment of muscles. If a cap of spines covered the anterior tip as in *Chimaera* they have been lost.

If a base or handle were developed on the head clasper of *Chimaera* there would be much in common in the two structures since the clasper of *Chimaera* is hollow (filled with uncalcified cartilage) and its base resembles the mid-portion of the fossil specimen. If its spines were removed, however, the clasper of the recent form is an even arch and does not possess an upturned and bifurcated portion on its anterior end as in the fossil.

The specimen shows as much resemblance in its structure to an *os priapi* as to a head clasper of some Cretaceous vertebrate, though to date no form has been recovered from the chalk that would give any clue to its relationship.

This species is named for Dr. Carl L. Hubbs, of the University of Michigan, Museum of Zoölogy.